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THREE LIONS

THE HIGHLY TRAINED TEMPLE DANCER HOLDS A POSITION OF HONOR IN THE EAST INDIES (page 3)

Netherlands Indies to Become Three States

ESTABLISHMENT by the Netherlands of the United States of Indonesia will mark the end of colonial rule over a vast empire long associated with spice, dancing girls (illustration, cover), jungle idols, tattooed warriors, and strategic materials of war and peace.

Strung out along the Equator from the tip of southeast Asia almost to Australia, the island steppingstones that made up the Netherlands Indies stretch in an arc longer than the United States is wide. Their population was estimated in 1940 at more than 70,000,000 people.

Most of People Are Crowded on Java

Soon, according to agreements between Netherlands officials and Indonesian nationalists, the Netherlands Indies chain will be organized into a federal structure. The new country is to have three states: (1) the already created Republic of Java, Madoera, and Sumatra; (2) the recently established Great East, or East Indonesia, the islands east of Borneo and Java, excepting New Guinea; and (3) the Netherlands section of Borneo. A joint body known as the Netherlands-Indonesian Union will be the link joining the mother country and its former colonies.

The three western islands—Java, Madoera, and Sumatra—now separated under the new republican government of the native Indonesians, form the most populous and economically developed section of the Indies group. Although the land area amounts to less than one-third of the whole, its people number more than two-thirds of the entire population.

Most of the people are crowded on rich, volcanic Java, one of the most densely settled spots on earth, with more than 500 persons to each square mile. With the small adjoining isle of Madoera, Java was the administrative, social, and commercial center of the Netherlands Indies. Batavia, on the northwest coast, has more than half a million people, and a strong flavor of the Netherlands homeland.

From Java—with its chattering monkeys, carabaos working in the fields, and natives dressed in sarongs and earrings—come some of the world's most valuable commodities. Rubber, quinine, sugar, coffee, tea, tobacco, kapok, teakwood, and the bountiful crops of rice that help feed the island's teeming population are typical products of the fertile soil.

The Great East Includes a Thousand Islands

Next door, sultry, palm-fringed Sumatra is more than three times as large as Java, but has fewer than one-sixth as many people. Though largely undeveloped, it is outstanding for such exports as petroleum, rubber, gold, pepper, vegetable oils, and fine cigar wrappers.

The Great East, whose units are often lumped together as "the rest of the archipelago," comprises a thousand big and little islands. Celebes, Bali, Lombok, Ceram, Amboina, Halmahera, Soembawa, Soemba, Flores, and Netherlands Timor are important in the group.

Mountain, jungle, and swamp—home of panthers and crocodiles, hummingbirds, and Australian types of marsupials—make up many of these

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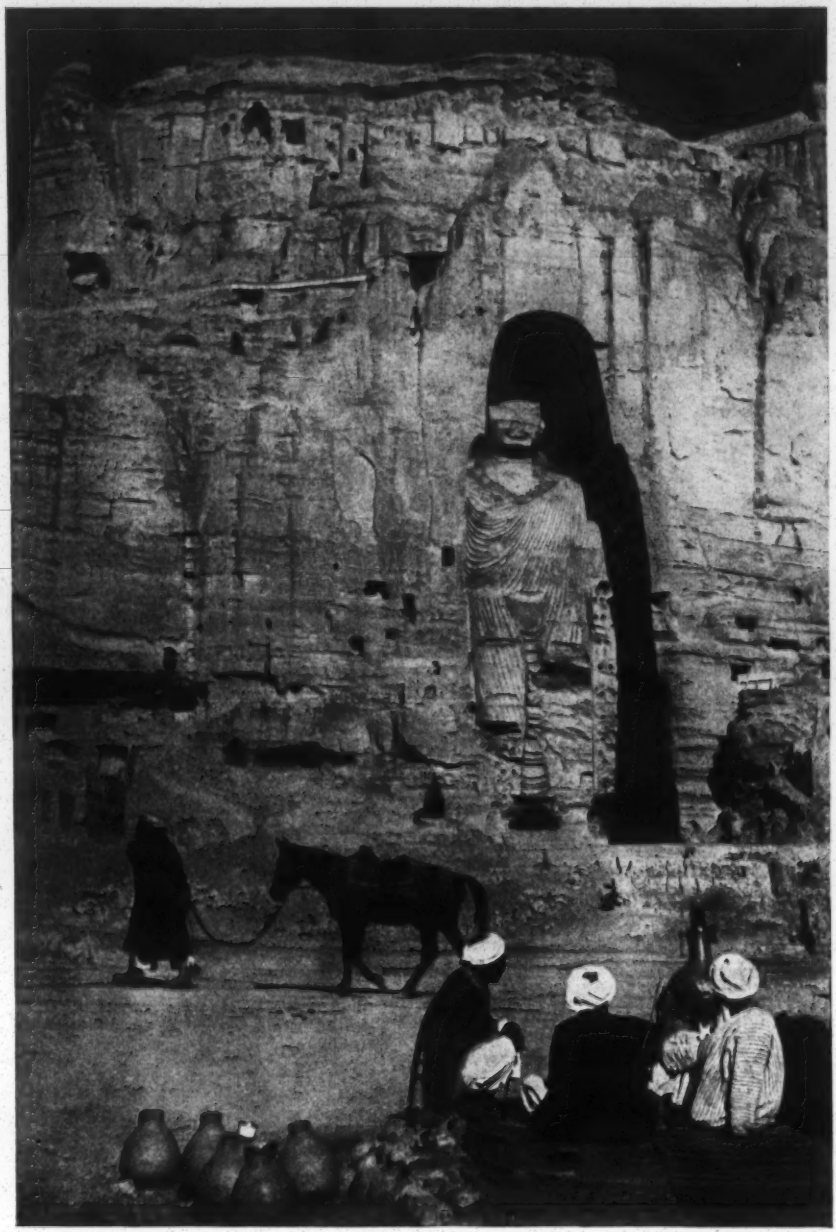


MAYNARD OWEN WILLIAMS

THE GREAT BUDDHA OF BAMIAN, DRESSED IN A GREEK ROBE, LOOKS DOWN ON AFGHAN MOSLEMS

This 175-foot colossus, built in the first century, stands at an ancient crossroad of Indian, Greek, and Buddhist cultures. Alexander the Great's conquests left a wake of Hellenic art forms in alien lands, as witness the typically Greek folds of the Buddha's robe. Two centuries before Alexander reached Afghanistan, the teachings of Gautama Buddha had begun to spread from India. Through Bamian, pilgrims carried the faith to China. A millenium ago a new prophet and a new people engulfed the region, laying the foundations of modern Moslem Afghanistan. (page 5).

American Teacher Bicycles Afghan Trail

MUCH of the rugged highland interior of Afghanistan, new member of the United Nations, never has been traversed from the west, but in the United States National Museum at Washington is a battered bicycle that carried its American owner across some of the most forbidding terrain in the Asiatic buffer land.

Fred A. Birchmore of Athens, Georgia, a lawyer and college professor, rode the bicycle about 25,000 miles in a 40,000-mile, globe-girdling trip before he became a naval officer in World War II.

Trail Processions Resemble Circus Parades

For 500 winding mountain miles from Herat in western Afghanistan to Bamian (illustration, page 2) in the east near Kabul, the capital, Birchmore covered a virtually uncharted course. Passing through rocky gorges high above the "bubble-house" mud villages of the Hari River valley, he came into a sportsman's paradise of pheasants, partridges, marmots, bears, and wolves on the high Kasamurgh Range.

He has reported to the National Geographic Society that he met caravans of nomads, camping by streams or moving their herds of sheep, goats, camels, horses, and cattle to greener slopes. Henna-haired, jewel-bedecked men and women plodded alongside circuslike processions.

Often the cyclist was invited to share *charak* (eggs fried in sheep blubber) with the tribesmen. This dish is sopped up by dipping fingers into a huge common bowl. Another feast was lamb stuffed with apricots, raisins, and curry, and cooked—wool, hide, and all—in a charcoal fire in a hole in the ground.

Occasionally, Birchmore passed caravans of city merchants, guarded front and rear by armed hirelings for protection from bandits. Despite difficulties of distance and terrain, the Afghan government has always tried to protect travelers.

Signs of automobile tire treads in these Afghanistan wilds mystified Birchmore until he observed that many of the people's shoes, imported from Iran, were soled with pieces of old rubber tires.

Bicycle Tricks Win Tribesmen's Friendship

The Afghan tribesmen like long-stemmed tobacco pipes, but seldom carry them on journeys. Instead, they mould a new pipe for each smoke from the mud at their feet. They shape the bowl with their thumbs and ream the stem with a stiff straw in about the time it takes an American to roll a cigarette.

At the fortified village of Chackcharan, the traveler found himself among tribesmen known to have no scruples against killing fellow humans when provoked. He won their friendship by riding his strange, two-wheeled mount in circles while the tribe elders laughed, shouted, and danced about him.

They sent him forth with fierce, mounted bodyguards to protect him. But when his guards persisted in proudly displaying him as an oddity at villages, he seized an opportunity to ride off by the dawn's early light.

The mountain tribesmen enjoy wrestling matches, bird fights, and

UMI

"outer" islands. The people are of many races, from smooth-skinned mongoloid Malays to bearded and bushy-haired Melanesians. They speak scores of languages and dialects, adhere to the Moslem, Buddhist, or Christian religions. Some tribes cling to their old pagan faiths.

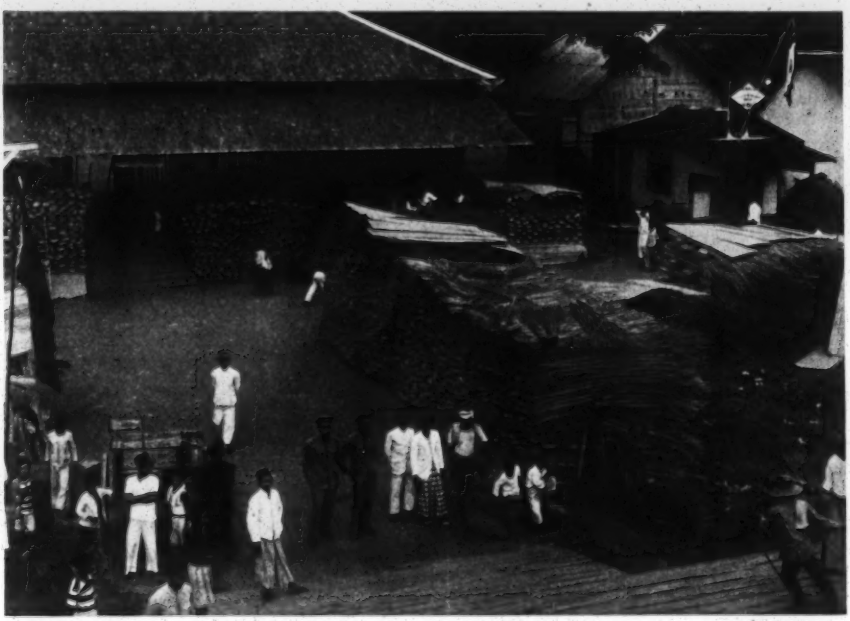
Even in these little-traveled regions, some "wealth of the Indies" has long been garnered. The Moluccas, originally the Spice Islands, still produce nutmegs and cloves, as well as petroleum. Celebes is in front with kapok and copra.

Borneo, third unit in the planned union, has a large yield of gold, petroleum, diamonds, pepper, and rattan (illustration, below). Bangka and Billiton, off the coast of Sumatra, are normally centers of a considerable tin output.

World famous is the island of Bali, just east of Java. Delighted visitors remember its slim, graceful dancers, its temples and idols, tinkly melodies, fluttering fans, and lusty cockfights.

NOTE: The Netherlands Indies are shown on the National Geographic Society's Map of Asia and Adjacent Areas. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "The Face of the Netherlands Indies" (20 photographs), in the *National Geographic Magazine* for February, 1946; "New Guinea's Mountain and Swampland Dwellers," December, 1945; "Keeping House in Borneo," September, 1945; "Timor a Key to the Indies," September, 1943; "Treasure Islands of Australasia," June, 1942; "Java Assignment," January, 1942; "Airplanes Come to the Isles of Spice," May, 1941; and "Unknown New Guinea," March, 1941.



EWING GALLOWAY

RATTAN, THE WILD VINE OF BORNEO, HERE IS CUT IN LENGTHS AND STACKED FOR SHIPPING

From Pasir, on the east coast of Netherlands Borneo, come quantities of the climbing jungle palm whose long, reedy stem gives "cane"-bottomed chairs to the world. Baskets, umbrella handles, canes, and furniture are also made of rattan. Locally, it makes rope; nailless Borneo houses are tied together with it. Little hooks on the leaves enable the plant to climb over other trees.

NATIONAL PARK SERIES: No. 13

Acadia, on the Forested Fringes of Maine

ACADIA, New England's contribution to the national park system, is the only area in the group, excepting Hawaii, that fronts the sea. It was the first park to be established east of the Mississippi, and for years it was the only one in the east.

Most of Acadia is on Maine's Mount Desert Island, whose headlands rising above the Atlantic are the highest on the eastern coast of the United States. Mt. Cadillac, the island's high point, reaches 1,530 feet above the water. From its summit one can see gray rocks and green islets galloping to sea, churning white spray as they go.

The "Only Atlantic Fjord" Nearly Cuts Mt. Desert in Two

About midway of the rocky coast of the state which Whittier called "hundred-harbored Maine," a cluster of islands fills an in-curve that meets the Penobscot River. At the east end of this bay rugged Mount Desert, second-largest island on the Atlantic coast, towers over lower wooded isles. The park occupies about one-fifth of the island. When various tracts were given to the government or acquired by purchase for a park, many private holdings were left. Gardens, pastures, houses, and barns, intervening between park areas, enhance the charm of the scenery.

Almost cutting the island in two is Somes Sound. This estuary, winding between meadows and hills, is sometimes called the only fjord on the Atlantic coast. At its head the island's first settler, Abraham Somes, built his home in the 1760's. At the lower end Southwest Harbor and Northeast Harbor were scenes of maritime activity when Bar Harbor, now the island's most important town, was a mere fishing village.

The ancient Mt. Desert Mountains raise rocky summits above green forests that screen their slopes. Centuries of erosion have worn them down so that they are little more than hills. There are a dozen peaks lower than Cadillac, and in the glens between them fresh-water lakes reflect their forests.

Cedars, pines, and spruces, as well as maples, beeches, and other deciduous trees, grow in the park. Hundreds of wild flowers bloom—lady slippers, trailing arbutus, and blazing cardinal flowers brighten hollows where moss and lichens thickly cover rocks and tree trunks.

The Park Is a Bird Lover's Paradise

Deer roam free in this wildlife sanctuary. Chipmunks and squirrels dart through the woods. Beavers busy themselves in lakes and streams.

Acadia is a paradise for bird lovers. The famous naturalists, Louis Agassiz and John James Audubon, spent much time on Mt. Desert. In the path of migratory birds, it is a rest spot for many species and a region which northern birds make their farthest south and birds of the south their farthest north. The bald eagle, ruffed grouse, loon, gull, and heron are familiar sights. Summer visitors include warblers, thrushes, and many other songbirds.

Ranger naturalists are ready to explain to visitors ancient geologic

horse races. They display uncanny skill at a form of polo. Round stones are knocked back and forth across a meadow as horsemen gallop at full speed wielding wooden mallets.

Quarreling is a well-developed art. When one of two contestants on the village platform decides to express himself with a knife instead of by mere thunderous speech, his opponent grabs him by the beard. The would-be knifer reciprocates. They stroke each other's beards, talk soothingly, and glow with pride at their display of self-control.

The roughest, toughest Afghans like colorful silks and personal adornment. They may often be seen holding a rosebud in one hand and a gun in the other. No people on earth have greater camaraderie among themselves, or less class distinction, Mr. Birchmore observed.

NOTE: Afghanistan is shown on the Society's Map of Asia and Adjacent Areas.

For additional information, see "Back to Afghanistan," in the *National Geographic Magazine* for October, 1946; "Afghanistan Makes Haste Slowly," December, 1933; and "Citroën Trans-Asiatic Expedition Reaches Kashmir," October, 1931.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, March 5, 1945, "Kabul, Afghanistan Capital, Feared Foreigners, Fought Progress"; and "Afghanistan Emerges from Asia's Middle Ages," March 8, 1944.

MAYNARD OWEN WILLIAMS

TURBANED AFGHANS AND THEIR BEASTS OF BURDEN PASS THROUGH GHAZNI'S ANCIENT GATE

Through fertile, vineyard-grown valleys, the road from Kabul, Afghan capital, leads south to Ghazni. This massive mud-walled citadel—now a quiet market town—was one of Alexander's conquests three centuries before Christ. Invading Moslem hordes made it their capital 1,000 years later.

London's Ivory Market Reopens

LONDON'S ivory market in Mincing Lane (illustration, page 10), reopened after a wartime lapse, was long the largest in the world. Sales had gradually declined since about 1850, dropping to less than 200 tons in recent years.

Most of the ivory sold in London is shipped from Africa, source of the best and largest elephant tusks. The elephant, however, does not furnish all the world's ivory. It comes also from the teeth of the hippopotamus, the largest teeth averaging around six pounds; from the tusks of the walrus, some two feet long; and from the tusk of the "sea unicorn," the Arctic narwhal. Growing six to nine feet long, the spirally twisted tusk of this whale is too brittle for its owner to use it as a weapon.

The Vikings Used Ivory

In the 19th century 10,000 to 12,000 walruses were slain annually in the Bering Sea, yielding a total of 100 tons of tusks, until herds were greatly depleted.

The narwhal was the ivory source of the Vikings, who used the horns to decorate the prows of their war vessels, to make sword and dagger hilts, and to fashion hairpins for their wives. In the library of the National Geographic Society there is displayed an eight-foot narwhal tusk, presented to the Society by Lieut. Comdr. Walter K. Queen, polar explorer.

Imitation ivory is made from the kernel of the ivory palm, a South American tree. The nut is soft and edible when ripe, but after drying, it becomes white, hard, and ivorylike. Buttons, chessmen, and other small objects are made from it. Celluloid is an ivory imitation from the chemistry field.

The most costly true ivory comes from east African elephants, and is usually sold for more than $4,000 a ton. Its highly resilient quality makes it ideal for billiard balls.

Elephant tusks vary in size and weight, often exceeding 100 pounds. The average is about 40 to 55 pounds, so that each ton of tusks represents about 21 elephants.

Mastodon Tusks Are "Mined"

Dead elephants are rarely found except when killed by other elephants. A tradition persists that they have secluded cemeteries where they go to die. African natives occasionally claim to have located such a cemetery, and bring tusks to market which they insist they have found. This is often a ruse to avoid legal restrictions on the killing of elephants.

A great store of mastodon tusks, thousands of years old, exists in Siberia. Much of this fossil, or dead, ivory is well preserved, but it lacks the resiliency of the present-day product. Mastodon tusks have been dug up for more than two centuries.

Ivory is commonly used in making piano keys, toilet articles, dice, chessmen, and statuettes, and brush, knife, and umbrella handles. It was highly prized by the ancients, as shown by archeological research.

Ivory's most valued contribution, historically, is in sculpture. Many treasured statuettes and much bas relief reveal life thousands of years

formations, and plant and animal life of the park. Marine life may be studied on cruises around the island, and in the tide pools, cliffs, and caves of the sea-carved coast.

Acadia's wild beauty of forest and shore is easily accessible, tamed by 150 miles of well-marked trails, and roads for automobile and horse-drawn vehicle. A fine road leads up Mt. Cadillac, with enchanting scenes (illustration, below) along its entire length and at the summit a breath-taking view of one of the most beautiful stretches of seacoast in America.

Originally called Lafayette National Park, it was opened in 1919, 315 years after Champlain discovered the island. He named it Desert for its wild isolation, and not its aridity. In 1929 Congress changed the name of the park to Acadia, after the old French province of which it was once a part.

The park includes 29 square miles on Mt. Desert and 13 square miles on the Schoodic Peninsula, projecting from the mainland. Between the two sections the waters of Frenchman Bay flow into the Atlantic Ocean.

Park headquarters is at Bar Harbor, the little town on the northeast coast which has been a fashionable summer resort for a century. There are campgrounds in the park and numerous hotels and rooming houses in the villages that dot the island.

Acadia is primarily a park for hiking. Its beauties are best seen from the trails. It is open the year around. With excellent facilities for winter sports, it is as inviting in winter as in summer. Its many lakes are natural skating rinks, and snowy slopes invite ski and snowshoe enthusiasts.

A road from Ellsworth, Maine, leads over a bridge to the island. The park area on Schoodic Peninsula, circled by a scenic drive, is reached from Winter Park on the mainland southeast of Ellsworth.

RUSSELL W. CONANT

BEYOND THE BOULDER-BORDERED ROAD WINDING UP MT. CADILLAC, SMALL ISLAND STEPPINGSTONES LEAD ACROSS THE ENTRANCE TO FRENCHMAN BAY FROM BAR HARBOR TO THE MAINLAND

Aviation Gains Feature 1946 Engineering

IN A YEAR of outstanding engineering and construction achievements, aviation advances during 1946 were noteworthy. Postwar reconversion high-lighted many of the year's building programs.

The flying wing, preliminary tests of the XS-1 supersonic plane, the ram jet engine, rocket experiments (illustration, page 12), and new commercial airliners were among the developments recorded by military and civilian aircraft engineers. They represented largely a projection of wartime blueprints.

In other industrial fields, amid discussion of potential uses of atomic energy, new locomotives were being built, and the world's largest steam turbine was under construction at Schenectady, New York. In the Soviet Union, water-jet propulsion was applied to river steamers.

Railroad-ferry Service from London to Paris Resumed

War-torn countries centered attention on reconstructing power plants, ships, harbors, bridges, railroad and other transportation facilities, and communication systems.

Connecting railroad and ferry service between London and Paris was re-established. More than half the rail lines in France had been destroyed, but 1946 saw their rapid reconstruction after the rebuilding of 2,000 bridges and the repair of many tunnels. Most French ports were again in operation.

Using 50,000 laborers, China replaced more than a thousand miles of the Canton-Hankow railroad in six months. The Soviet Union largely restored its damaged rail lines.

Netherlanders rebuilt the bridge over the Hollandsche Diep, 20 miles southeast of Rotterdam. It is one of the longest bridges in Europe. In Greece the lofty Corinth Canal bridge, destroyed by the Germans, was reopened. The Poles bridged the Vistula between Warsaw (Warszawa) and suburban Praga.

The first permanent new bridge over the Rhine, near Duisberg, Germany, was opened to traffic. A British-built bridge at Cologne (Köln) is to be named Patton Bridge in memory of the general.

Chinese Repair Yellow River Dike and Drain Farmland

The Mont Cenis tunnel between France and Italy was repaired. Oldest of the great Alpine tunnels, it had been partially destroyed by the Germans. Work was begun on a new tunnel under Mont Blanc.

China nearly completed a reclamation project involving repair of the huge break in the Yellow River dike, opened in 1938 to check the Japs. It will return an estimated 2,000,000 inundated acres of farmland to production.

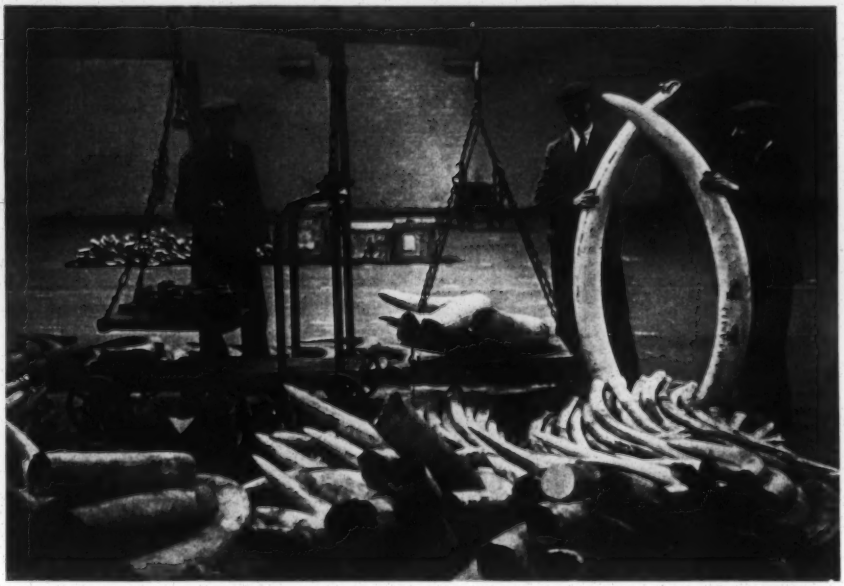
Repairs were virtually finished on the Soviet Union's gigantic Dnepr power dam which was ruined in the war. Hundreds of village hydroelectric stations were under construction. To restore the dwindling Caspian Sea, reservoirs and canals were being built to throw water into the Volga River, which flows into the sea.

Completion of Bolivia's Angostura Dam, 70 feet high and 650 feet

ago. Greek sculptors often used ivory to represent the face and other exposed flesh portions of statues. The Old Testament has many references to the translucent material. Excavations where earliest man lived—in Assyria, Babylon, Egypt, southern Europe—have brought to light numerous artifacts.

What may be the oldest sculpture of the human head is an ivory carving found in Czechoslovakia, thought by some archeologists to represent a period 30,000 years ago. Today, India, China, and Japan are noted for their fine, painstaking ivory carvings. In the shops near London's market workers often do their most delicate carving after midnight to avoid traffic vibrations.

NOTE: For additional information see "Nature's Most Amazing Mammal" (the elephant) in the *National Geographic Magazine* for June, 1934. In "Whales, Giants of the Sea," January, 1940, information on the narwhal may be found.



B. ANTHONY STEWART

ELEPHANT TUSKS ARE WEIGHED, MEASURED, AND GRADED IN THE LONDON IVORY MARKET

The largest ones, six feet long, come from Africa. Single tusks weighing up to 100 or 150 pounds are often found, and there is a record of one heavyweight of 235 pounds. Bulls use their tusks occasionally for fighting, but old elephants find the heavy protuberances a hardship. The spikes keep growing and eventually become such a weight that old-timers cannot keep up with the herd. Aged stragglers have been observed resting their heads in the forks of trees. They fall easy prey to the ivory hunter.

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long at the crest, provides for irrigation of about 50,000 acres in the Cochabamba area. India began work on big irrigation and power projects on the Mahanadi, Damodar, and Kosi rivers.

In the United States, construction was started on the Missouri River project. This program calls for more than a hundred dams to control floodwaters, irrigate 5,000,000 acres, supply more than 200 hydroelectric power plants, and add 760 miles of navigable river channel.

The White River power and flood-prevention work progressed along the Missouri-Arkansas boundary. Norfork Dam already is in operation, and three more dams are in progress at Bull Shoals, Table Rock, and Lone Rock. In the northwest, a two-mile bore through solid rock will bring water from the reservoir of the Grand Coulee Dam to irrigate some 1,500 Washington farms.

Prominent among new bridges in the United States was one over the Kentucky River, about 16 miles from Lexington, Kentucky, described as the highest continuous steel-deck bridge in the country. At Massena, New York, the world's first all-aluminum bridge span was installed.

NOTE: See also, "Mending Dikes in the Netherlands" (20 photographs), in the *National Geographic Magazine* for December, 1946; and "Holland Rises from War and Water," February, 1946.

U. S. NAVY, OFFICIAL

A NAVY FLYING BOAT IS AIRBORNE WITH EXTRA SPEED BY HELP FROM JATO

Trailing a cloud of smoke from JATO (jet-assisted take-off) units, this Navy flying boat can rise from the water in a smaller space and a shorter time than it can with its own unassisted engines. The added power is contained in the two small rockets fastened to the plane's fuselage.